ABSTRACT

Replacing ruthenium with rhodium as the AFM coupling layer in a synthetically pinned CPP GMR structure enables the AP1/AP2 thicknesses to be increased. This results in improved stability and allows the free layer and AFM layer thicknesses to be decreased, leading to an overall improvement in the device performance. Another key advantage of this structure is that the magnetic annealing requirements (to establish antiparallelism between AP1 and AP2) can be significantly relaxed.